

In The Specification

The specification has been amended to replace "monochrometor" with "monochromator" at each occurrence as suggested by the Examiner.

The claims have been amended in the same way. The claims have also been amended to provide consistency with the terms "product" and products". These amendments to the claims were not made to distinguish the prior art.

Prior Art Rejections

Claims 1-6 and 9-13 have been rejected under 35 U.S.C. § 103 as being unpatentable over Gerrish in view of Rosenthall, Goetz and Stearns.

The Examiner states that Gerrish discloses everything except a monochromator, a fiber optic cable, and a radiation source. The Examiner then states that it would have been obvious to one of ordinary skill in the art to modify Gerrish to incorporate the items of the other references.

Amended claim 1 includes "a monochromator", "a device coupled to the combine for forming a flow of harvested product past a sensing location", and a radiation source "disposed near the flow of harvested product for irradiating the product as the product flows past the sensing location".

The Gerrish reference discloses a crop testing and evaluation system including a weigh bucket 24 (Figure 2) including sensors 84 which test for characteristics such as sugar content, oil content, protein content, hardness and

color (Figure 5). The sensors 84 are "attached to the baffles or interior walls 76" or to the side walls of the weigh bucket 24. Column 6, lines 25-33. The Gerrish reference makes no mention of and provides no motivation for selecting the location of the sensors 84 based on the flow of the harvested product. In fact, even if any of the items from the Rosenthal, Goetz, and Stearns references were used as the "other sensor 84", such a combination would not read on amended claim 1. There is no device in the cited references for forming a flow of harvested product past a sensing location, and a radiation source disposed near the flow of harvested product for irradiating the product as the product flows past the sensing location as required by amended claim 1.

The present invention has an improved accuracy resulting from the grain sample presentation which is made constant and repeatable. The specification of the present invention describes one example of the grain presentation as follows:

"To help improve accuracy of the system, the grain sample presentation is made constant and repeatable. This results in consistent results. The samples are sensed in the same way and in the same location for each successive sample. In a lab, lab technicians may not analyze different samples in exactly the same way. A more consistent result is obtained by automating the analyzation process. Also, sensing the samples as the grain is moving improves the accuracy and reliability since an "average" sample is taken, rather than looking at still kernels which have surfaces that vary from one part of the kernel to the other. Since the samples can be analyzed at a high rate of speed, the processor can average a number of readings to obtain a consistent result for each sample."

Spec. page 10, lines 17-30.

For at least these reasons it is believed that amended claim 1 is patentable over the prior art.

Since claims 2-11 depend from amended claim 1 it is also believed that these claims are patentable over the prior art.

Amended claim 12 includes the steps of "providing a monochromator coupled to the combine", "providing a stream of moving agricultural product within the combine", "providing a radiation source coupled to the combine near the stream of moving product", "applying radiation to the stream of moving product", and "sensing radiation that is reflected off of the stream of moving product".

Again, the Gerrish reference does not teach or suggest applying radiation to a stream of moving product within the combine and sensing radiation that is reflected off the stream of moving product. Therefore, even if one of the sensors 84 of Gerrish was comprised of a monochromator as disclosed in any of the Rosenthal, Goetz, or Stearns references, amended claim 12 would not be taught or suggested.

For these reasons, and for the reasons set forth with respect to amended claim 1, it is believed that amended claim 12 is patentable over the prior art.

Amended claim 13 includes the steps of "collecting a sample of the product and containing the sample in a chamber", "allowing the sample of the product in the chamber to flow out of the chamber", "irradiating the sample with radiation as it

flows out of the chamber", and "sensing radiation which reflects off of the sample".

Again, even if the Gerrish reference was combined with one of the other cited references, the combination would not teach or suggest the method of amended claim 13. Such a combination would not collect a sample of the product in a chamber, allow the sample of the product to flow out of the chamber, irradiate the sample as it flows out of the chamber, and sense the radiation which reflects off the sample.

For at least these reasons it is believed that amended claim 13 is patentable over the prior art.

New Claims

New claims 14-24 have been added. Applicants submit that new claims 14-24 are allowable over the prior art.

New claims 14-18 depend from amended claim 1. New claims 19-21 depend from amended claim 12. New claim 22 is a new independent claim, while new claims 23 and 24 depend from new claim 22.

Information Disclosure Statement

Applicants wish to make the Examiner aware of an Information Disclosure Statement which was filed August 20, 1997. Applicants respectfully request that the Examiner consider the references cited in the Information Disclosure Statement.

Conclusion

It is respectfully submitted that all claims are patentable over the prior art. It is furthermore respectfully submitted that all other matters have been addressed and remedied and that the application is in form for allowance.

Respectfully submitted,



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